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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/872,077

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Lisa Amini

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10/11/2006

INTERNATIONAL BUSINESS MACHINES CORP

IP LAW

555 BAILEY AVENUE , J46/G4

SAN JOSE, CA 95141

EXAMINER

NALVEN, ANDREW L

ART UNIT

PAPER NUMBER

2134

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,077

Applicant(s)

AMINI ET AL.

Examiner

Andrew L. Nalven

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15-20, 23, 24, 37-42 and 45-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-20, 23, 24, 37-42 and 45-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-12, 15-20, 23-34, and 37-42 are pending.

Response to Arguments

2. Applicant's arguments filed 20 September 2006 have been fully considered but they are not persuasive.

3. Applicant has argued on page 16 that the cited references fail to teach transmitting said encrypted data element with said encryption state to a receiving computer system. Examiner respectfully disagrees. Shimomura teaches transmitting said encrypted data element with said encryption state to a receiving computer system (Shimomura, column 3 lines 50-61) by teaching the sending of error correcting codes with encrypted data.

4. Applicant further argues on page 16 argues that one of ordinary skill in the art would not be motivated to combine Mitty with Shimomura for error correction. Examiner respectfully disagrees. Mitty and Shimomura teach "decrypting said encrypted data element with said static key, said encryption state transmitted with said encrypted data element, and said dynamic key without retransmission of said previous encrypted data element" (Shimomura, column 3 lines 50-61, Mitty, column 12 line 61 – column 13 line 17). Shimomura teaches that each data element is decrypted using error correcting codes and thus each data element is ensured to be unaltered and not lost. If a previous

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data element fails in transmission, the subsequent data element will be decrypted using the decryption keys and encryption state (error correcting codes). One of ordinary skill in the art would be motivated to make the combination of Mitty and Shimomura because it offers the advantage of ensuring that received data is not lost or altered (Shimomura, column 14 lines 5-15).

5. Applicant further argues on page 18 that the Baily reference, US Patent No. 5,659,614, is nonanalogous art with respect to Mitty and Shimomura. In response to applicant's argument that Bailey is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Bailey is directed towards a method of prioritizing, securing, and reducing the amount of data transmitted and stored during the creation of a backup copy of file data. Examiner maintains that this is within the field of applicant's endeavor and is pertinent to the problem addressed by Applicant. Bailey's invention secures data using encryption keys just as the instant invention secures data using encryption keys. Bailey's invention attempts to reduce the amount of data transmitted just as the instant invention attempts to reduce data transmissions by providing functionality to continue processing even when transmission fails on data elements without utilizing retransmission. Thus, Examiner maintains that Bailey is analogous art.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-6 and 23-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. With regards to claim 1, it is unclear to the Examiner which data element is being decrypted in line 8. Line 8 provides that "said data element being decrypted." It appears that line 8 should read that "said encrypted data element being decrypted." Further, the same issue arises on lines 9-10 where the limitation provides "said data element also being decrypted."
8. With regards to claim 23, it is unclear to the Examiner which data element is being referred to in lines 9-14. Lines 9-14 refer to "said data element" whereas line 8 refers "said encrypted data element." It is unclear if the data element referred to in lines 9-14 is the encrypted data element or the unencrypted data element.
9. With regards to claim 37, it is unclear to the Examiner which data element is being referred to in lines 8-17. Lines 8-17 refer to "said data element" whereas line 7 refers "encrypting said data element." It is unclear if the data element referred to in lines 8-17 is the encrypted data element or the unencrypted data element.
- 10.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-5, 7-10, 12, 15-18, 20, 23-27, 29-32, 34, 37-40, 42, and 45-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitty et al US Patent No. 6,145,079 in view of Shimomura et al US Patent No. 6,473,858.

13. With regards to claims 1, 7, 15, 23, 29 and 37, Mitty teaches a data element being statically encrypted with a static key (Mitty, column 8 lines 48-51, M2 encrypted to form M3), a data element being dynamically encrypted with a dynamic key (Mitty, column 12 lines 14-23, M9 encrypted to form M10), and a data element being decrypted with a dynamic key and a static key (Mitty, column 12 line 61 – column 13 line 17, decrypts M10 and M3). Mitty fails to teach that in response to a transmission failure of said data element, decryption of said data element being recovered without retransmission of data and the use of encryption states. However, Shimomura teaches said encrypted data element being transmitted with said encryption state (Shimomura, column 3 lines 51-60, encrypted information sent with error correction coding) and that in response to a transmission failure of said data element, decryption of said data element being recovered without retransmission of data (Shimomura, column 14 lines 5-15, decryption done using error correcting codes to repair and then using key to

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decrypt) thus allowing decryption of a subsequent block to take place even if there was a transmission failure with retransmission. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Shimomura's correction method with Mitty's secure transaction system because it offers the advantage of ensuring that received data is not lost or altered (Shimomura, column 14 lines 5-15).

14. With regards to claims 2, 8, 16, 24, 30, 38, Mitty as modified teaches encryption with said static key being strong encryption (Mitty, column 8 lines 48-51).

15. With regards to claims 3, 9, 17, 25, 31, 39, Mitty as modified teaches encryption with said dynamic key being weak encryption (Mitty, column 12 lines 14-23).

16. With regards to claims 4, 10, 18, 26, 32, 40, Mitty as modified teaches a data element being encrypted with a static key on a first computer system (Mitty, column 8 lines 48-51, M2 encrypted to form M3, column 10 lines 9-16 intermediary receives package from sender), the data element being encrypted with the dynamic key on a second computer system (Mitty, column 12 lines 14-23, M9 encrypted to form M10 by intermediary computer system), and the data element being decrypted with the static key and dynamic key on a third computer system thereby encryption and decryption are distributed between the first, second, and third computer systems (Mitty, column 12 line 61 – column 13 line 17, recipient/3rd computer system decrypts M10 and M3).

17. With regards to claims 5 and 27, Mitty as modified fails to teach the second computer being untrusted. Examiner contends that untrusted computers are well known in the art and it would have been obvious to a person of ordinary skill in the art to allow

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Mitty's system to work with untrusted computers because it offers the advantage of allowing interoperability with a far wider range of networks and systems.

18. With regards to claims 12, 20, 34 and 42, Mitty as modified teaches the determination of whether a transmission failed (Mitty, column 6 lines 30-56, confirmation messages) and the repairing of the data element without retransmission (Shimomura, column 14 lines 5-15).

19. With regards to claims 45-47, Mitty as modified teaches digital data representing audio and video information (Shimomura, column 8 lines 2-17).

20. With regards to claims 48-49, Mitty as modified teaches transmitting a packet comprising a data element with said encryption state to a receiving computer system (Shimomura, column 3 lines 50-60) and determining whether transmission of said previous encrypted data failed based on a loss of a previous packet comprising a previous encrypted data element (Shimomura, column 14 lines 1-20).

21. Claims 6, 11, 19, 28, 33, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitty et al. US Patent No. 6,145,079 and Shimomura et al US Patent No. 6,473,858, as applied to claims 1, 7, 15, 23, 29, and 37, in further view of Bailey III US Patent No. 5,659,614.

22. With regards to claims 6, 11, 19, 28, 33, and 41, Mitty as modified teaches a data element being encrypted with a static key and a dynamic key on a first computer system (Mitty, column 8 lines 48-51, M2 encrypted to form M3, column 9 lines 25-47 encrypted M5 to form M6), but fails to teach the data element being decrypted by the same

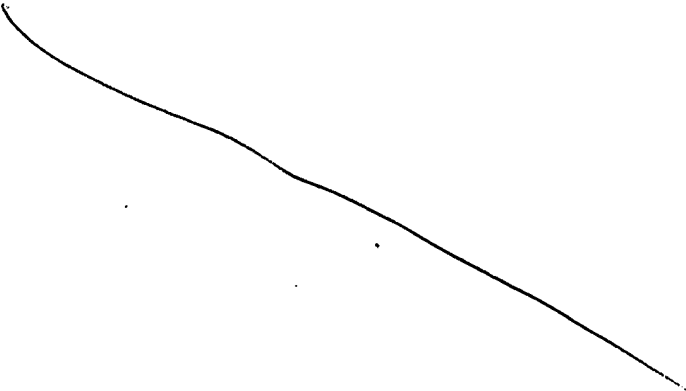
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dynamic key on a second computer system. Bailey teaches the data element being decrypted with the static key and the dynamic key on a second computer system (Bailey, column 6 lines 9-21, column 18 lines 53-55). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize Bailey's method with Mitty's secure transaction system because it offers the advantage of helping ensure an attacker cannot decrypt data by acquiring a single key during a transmission from a source to destination (Bailey, column 6 lines 8-21).

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Nalven whose telephone number is 571 272 3839. The examiner can normally be reached on Monday - Thursday 8-6, Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on 571 272 6962. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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AN

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